IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of: Steven McCanne, et al.	Confirmation No.: 6737
	Examiner: Joiya M. Cloud
Serial No.: 10/618,369	Group Art Unit No.: 2444
Filed: July 10, 2003	

For: SYSTEM FOR MULTIPOINT INFRASTRUCTURE TRANSPORT IN A COMPUTER NETWORK

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
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APPEAL BRIEF

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed on July 1, 2010. A Request for Pre-Appeal Brief Review was filed with the Notice of Appeal. A Notice of Panel Decision from Pre-Appeal Brief Review was mailed on August 5, 2010. Therefore, the time period for filing this Appeal Brief extends to September 5, 2010.

I. REAL PARTY IN INTEREST

Yahoo! Inc. is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals or interferences.

III. STATUS OF CLAIMS

Claims 16, 18-24, 26 and 28-39 have been finally rejected and are the only subjects of this appeal. Claims 1-15, 17, 25 and 27 were canceled.

IV. STATUS OF AMENDMENTS

The claims were not amended after the Final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present application contains three independent claims: Claim 16, 26 and 36. These claims are summarized below and annotated to cross-reference features of those claims to specific examples of those features disclosed in the specification. However, the annotations are not intended to limit the scope of the recited features to those specific examples to which the annotations refer.

Claim 16 recites (*with added reference annotations in parenthesis)* an apparatus *(page 2, ll. 12-13)*, for processing data at a node in a data network *(page 2, ll. 12-13)*, wherein the data network connects a plurality of nodes *(page 5, ll. 29-33; page 6, ll. 1-14; FIG. 2; page 13, ll. 17-23; FIG. 5; page 14, ll. 22-25; FIG. 7)* and at least a portion of the plurality of the nodes form a multicast group *(page 13, ll. 17-23)*, the apparatus comprising:

a data store *(page 7, ll. 1-5; FIG. 3, element 304)* that stores *(page 11, ll. 19-20)*, in a database *(page 4, ll. 7, 32-33)*, a plurality of entries associated with the multicast group *(page 8, ll. 28-33; page 10, ll. 11-15)*, wherein each entry comprises data to be transmitted from a rendezvous point of the multicast group to members of the multicast group *(page 2, ll. 22-30)*; and

one or more processors *(page 5, ll. 1, 13)* comprising one or more sequences of instructions which when executed by one or more processors, cause the one or more processors to perform *(page 4, l. 30-33; page 5, ll. 1-28)*:

logic that disseminates the plurality of entries to members of the multicast group *(page 6, ll. 21-28)*;

logic that receives, from a node that is not a member *(page 7, ll. 24-25; page 4, ll. 7-8; FIG. 7, element 228; page 16, ll. 24-29)* of the multicast group, a request to run a query against the entries stored in the data store *(page 4, ll. 6-8; FIG. 7, element 228; page 16, ll. 24-29)*, wherein the query specifies matching criteria *(page 16, ll. 24-31)*;

logic that runs the query against the entries in the data store *(page 16, ll. 24-31)*;

logic that indicates that the apparatus has been designated as the rendezvous node *(page 7, ll. 29-32; page 13, ll. 28-33; page 14, ll. 1-4)* in the multicast group, wherein designation as the rendezvous node *(page 14, ll. 11-21; page 18, ll. 6-13)* indicates that the apparatus is to disseminate the plurality of entries to members of the multicast group; and

logic that disseminates *(page 11, ll. 19-23; page 14, ll. 11-21)* one or more entries that satisfy the matching criteria to the node that is not a member *(page 17, 1-5; FIG. 7, element 228)* of the multicast group.

Claim 26 recites (*with added reference annotations in parenthesis)* a method *(page 2, ll. 21-22)* for operating an apparatus *(page 2, ll. 12-13)* coupled to a selected node in a data network *(page 2, ll. 22-23)*, wherein the data network connects a plurality of nodes and at least a portion of the plurality of the nodes *(page 2, ll. 22-23; page 5, ll. 29-33; page 6, ll. 1-14; FIG. 2; page 13, ll. 17-23; FIG. 5; page 14, ll. 22-25; FIG. 7)*, including the selected node, form a multicast group, the method comprising steps of:

storing *(page 11, ll. 19-20)*, in a database *(page 4, ll. 7, 32-33)*, of a data store *(page 7, ll. 1-5; FIG. 3, element 304)*, at the apparatus *(page 2, ll. 12-13)*, a plurality of entries associated with the multicast group *(page 8, ll. 28-33; page 10, ll. 11-15)*, wherein each entry comprises data to be transmitted from a rendezvous point of the multicast group to members of the multicast group *(page 2, ll. 22-30)*;

disseminating the plurality of entries to members of the multicast group *(page 6, ll. 21-28)*;

receiving a request from a node that is not member *(page 7, ll. 24-25; page 4, ll. 7-8;*

FIG. 7, element 228; page 16, ll. 24-29) of the multicast group to run a query against the entries stored in the data store *(page 4, ll. 6-8; FIG. 7, element 228; page 16, ll. 24-29)*, wherein the query specifies matching criteria *(page 16, ll. 24-31)*;

indicating that the apparatus has been designated as the rendezvous node *(page 7, ll. 29-32; page 13, ll. 28-33; page 14, ll. 1-4)* in the multicast group, wherein designation as the rendezvous node *(page 14, ll. 11-21; page 18, ll. 6-13)* indicates that the apparatus is to disseminate the plurality of entries to members of the multicast group; and

disseminating *(page 11, ll. 19-23; page 14, ll. 11-21)* one or more entries that satisfy the matching criteria to the node that is not member *(page 17, 1-5; FIG. 7, element 228)* of the multicast group.

Claim 36 recites (*with added reference annotations in parenthesis)* a data network for transmitting data *(page 2, ll. 21-22)*, wherein the data network connects a plurality of nodes and at least a portion of the plurality of the nodes form a multicast group *(page 2, ll. 22-23; page 5, ll. 29-33; page 6, ll. 1-14; FIG. 2; page 13, ll. 17-23; FIG. 5; page 14, ll. 22-25; FIG. 7)*, the data network comprising:

a plurality of apparatuses *(page 2, ll. 12-13; page 6, ll. 7-10)*, each of the apparatuses comprising:

a data store *(page 7, ll. 1-5; FIG. 3, element 304)* that stores *(page 11, ll. 19-20)*, in a database *(page 4, ll. 7, 32-33)*, a plurality of entries associated with the multicast group *(page 8, ll. 28-33; page 10, ll. 11-15)*, wherein each entry comprises data to be transmitted from a rendezvous point of the multicast group to members of the multicast group *(page 2, ll. 22-30)*; and

one or more processors *(page 5, ll. 1, 13)* comprising one or more sequences of instructions which when executed by one or more processors, cause the one or more processors to perform *(page 4, l. 30-33; page 5, ll. 1-28)*:

logic that disseminates the plurality of entries to members of the multicast group *(page 6, ll. 21-28)*;

logic that receives, from a node that is not a member *(page 7, ll. 24-25; page 4, ll. 7-8; FIG. 7, element 228; page 16, ll. 24-29)* of the multicast group, a request to run a query against the entries stored in the data store *(page 4, ll. 6-8; FIG. 7, element 228; page 16, ll. 24-29)*, wherein the query specifies matching criteria *(page 16, ll. 24-31)*;

logic that runs the query against the entries in the data store *(page 16, ll. 24-31)*;

logic that indicates that the apparatus has been designated as the rendezvous node *(page 7, ll. 29-32; page 13, ll. 28-33; page 14, ll. 1-4)* in the multicast group, wherein designation as the rendezvous node *(page 14, ll. 11-21; page 18, ll. 6-13)* indicates that the apparatus is to disseminate the plurality of entries to members of the multicast group; and

logic that disseminates *(page 11, ll. 19-23; page 14, ll. 11-21)* one or more entries that satisfy the matching criteria to the node that is not a member *(page 17, 1-5; FIG. 7, element 228)* of the multicast group.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claim 16 stands rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite.

2. Claims 16 and 36 stand rejected under 35 U.S.C. § 101 as allegedly directed to non-statutory subject matter.

3. Claims 16, 18-24, 26 and 28-39 stand rejected under 35 U.S.C. § 102(e) as

allegedly anticipated by U.S. Patent No. 5,793,962 ("Badovinatz").

VII. ARGUMENT

A. Claim 16 Particularly Points Out and Distinctly Claims the Subject Matter That the Applicants Regard As the Invention

The Examiner states that Claim 16 is indefinite because it is allegedly unclear how sequences of instructions which, when executed by processors, can cause the processors to perform logic that disseminates a plurality of entries [...], as recited in Claim 16. To overcome the rejection, the Examiner suggests amending the term "perform" to "execute." This is incorrect because the features recited in Claim 16 would be clear to a skilled person in the art. "Logic" means a method and reasoning (Computer Dictionary Online), a method of reasoning (Dictionary.com Online) and a mode of reasoning (Merriam-Webster Dictionary Online). Thus, the instructions which, when executed by the processors, **can cause** the processors to perform the method that disseminates a plurality of entries [...], as claimed. A skilled person would understand that the feature that recites the instructions that cause the processors "to perform logic that disseminates a plurality of entries to members [...]," as claimed, means to perform a method that disseminates a plurality of entries to members [...]. Indeed, the Examiner concedes exactly that by stating that the recited feature means "to perform a series of steps or method." (Final Office Action: page 2, ll. 15-16).

Amending the phrase "to perform logic that disseminates [...]," as claimed, to the phrase "to execute logic that disseminates [...]," as the Examiner suggests, is unnecessary because "to perform" means "to execute." Indeed, the Examiner concedes exactly that by stating that "to execute logic" means to perform a series of steps or method. (Final Office Action: page 2, ll. 15-16). Hence, the features recited in Claim 16 would be clear to a skilled person in the art.

For at least these reasons, Claim 16 satisfies the requirements set forth in U.S.C. § 112, second paragraph.

The rejection of Claim 16 under 35 U.S.C. § 112, second paragraph, should be reversed.

B. Limitations Recited In Each Of Claims 16 And 36 Are Tied To a Machine, As a Processor, Recited In Claims 16 and 36, Is a Machine

The Examiner contends that Claims 16 and 36 are directed to non-statutory subject matter and alleges that, in light of the specification, the "processors," recited in each of Claims 16 and 36, appear to be *software* processors. The Examiner contends that Claims 16 and 36 may be interpreted as not tied to a particular machine because on page 2 (ll. 31+) and page 3 (ll. 1-8) the specification describes a processing agent for processing data, and the processing agent has logic to couple to selected node in the data network and logic to transmit and receive data with other processing agents in the data network. This is incorrect because the Examiner fails to interpret the "processors," as recited in Claims 16 and 36 and supported in the specification, as an electronic processing devices such as a central processing unit (CPU).

The claims are interpreted in light of the specification and there is no support in the specification for the Examiner's over-broad interpretation. The processing agent, to which the Examiner alludes, comprises a state memory and a protocol processor. (Specification: page 3, ll. 2-3) On page 4 (ll. 30-33) and page 5 (ll. 1-2), the applicants' specification states that the embodiment of FIG. 1A is a computer system comprising a **central processing unit (CPU)** and other devices such as a disk drive, CDROM drive, random access memory (RAM), etc. On page 5 (ll. 3-9), the specification states that the embodiment of FIG. 1 A is a computer system that can be a desktop computer, laptop, palmtop, server, workstation, mainframe, etc., suitable for use with the present invention and that can be configured with many different hardware components. On page 5 (ll. 10-21), the specification states that the embodiment of FIG. 1B is a computer system in which subsystems are directly interfaced to internal bus 22. Subsystems include input/output (I/O) controller 24, system Random Access Memory (RAM) 26, **Central**

Processing Unit (CPU) 28, Display Adapter 30, Serial Port 40, Fixed Disk 42 and Network Interface Adapter 44. The use of bus 22 allows each of the subsystems to transfer data among the subsystems and, most importantly, with the CPU. External devices can communicate with the CPU and other subsystems via bus 22 by interfacing with a subsystem on the bus. (Specification: page 5, ll. 10-21) A skilled person would understand that all these elements refer to electronic digital devices.

A processor, as recited in Claims 16 and 36, is a machine. Each of Claims 16 and 36 recites an apparatus comprising "one or more processors." Thus, the limitations recited in each of Claims 16 and 36 are tied to a machine, as a processor is a machine.

For at least these reasons, Claims 16 and 36 are directed to statutory subject and satisfy the requirements set forth in U.S.C. § 101.

The rejection of Claims 16 and 36 under 35 U.S.C. § 101 should be reversed.

C. The Features Of Claims 16, 18-24, 26 and 28-39 Are Not Anticipated By Badovinatz

Among other features, Claim 16 recites "logic that receives, from **a node that is not a member** of the multicast group, a request to run a query against the entries stored in the data store, wherein the query specifies matching criteria, and wherein each entry, stored in the data store, comprises data to be transmitted from a rendezvous point of the multicast group to members of the multicast group." Claim 16 also recites "logic that disseminates one or more **entries** that satisfy the matching criteria to the node that is **not a member** of the multicast group."

The approach recited in Claim 16 allows **a non-member** to request running a query, having matching criteria, against the entries stored in the group data store, and to receive the entries that satisfy the matching criteria specified in the non-member's query. According to Claim 16, even though the entries stored in the data store comprise data intended for the multicast group members, a non-member may query the data store and the non-member, while remaining the non-member, may receive the data store entries that satisfy the matching criteria.

The Examiner alleges that a plurality of entries in a data store, as recited in Claim 16, correspond to the entries in *Badovinatz'* membership list. (Final Office Action: page 4, ll. 6-10) The Examiner also alleges that a request, received from a node that is not a member of the multicast group, to run a query against the entries in the data store, as claimed, corresponds to *Badovinatz'* INQUIRY request sent to test whether a member of the group is active. (Final Office Action: page 4, ll. 12-14) This is incorrect because the allegation is based on clear factual errors.

a. Badovinatz' INQUIRY request is not a request to run a query against the entries in the data store, wherein the query specifies matching criteria, as claimed.

While discussing *Badovinatz*, the Examiner misstates the features of *Badovinatz*. On page 4, the Examiner alleges that in column 6 (ll. 19-22) *Bodavinatz* teaches a plurality of entries in the data store, as recited in Claim 16, because *Badovinatz* describes a membership list stored in memory of the group's processors. The Examiner also alleges that in column 5 (ll. 63-65) and column 6 (ll. 1-9) *Badovinatz* teaches a request to run a query against the entries stored in the data store, wherein the query specifies matching criteria, as recited in Claim 16, because *Badovinatz* describes an INQUIRY signal to test whether a member is indeed an active member. This is incorrect because even if *Badovinatz'* membership list allegedly correspond to the entries, as claimed, *Bodavinatz'* INQUIRY signal is not sent to run a query against *Badovinatz'* membership list.

As clearly stated in the excerpts that the Examiner cites, *Badovinatz'* INQUIRY request is merely a signal sent directly to an individual node, which has been already selected from *Badovinatz'* membership list, to test whether a member remains active, not a request to run a query against the entries stored in the data store, wherein the query specifies matching criteria, as claimed. In *Bodavinatz,* the INQUIRY request is sent in expectation to receive a confirmation that the individual node is alive, not to request to run a query against the entries stored in the data store, as claimed.

Badovinatz' INQUIRY request is sent to determine the members that are still active (alive), and thus can be considered in selection of a new group leader. (*Badovinatz:* Col. 5, 50-55) In *Badovinatz,* sending the INQUIRY request is part of the process of selecting the new group leader from the members by the members, not to run a query against the entries stored in the data store in expectation to receive one or more entries from the group's data store, as claimed.

In *Badovinatz,* a new group leader is selected by the remaining members after a previous group leader was removed from the group for some reason. (*Badovinatz:* Col. 5, ll. 50-55) To select a prospective new group leader, one or more group processors scan a group membership list. (*Badovinatz:* Col. 5, ll. 50-55) Then, the group processors determine whether the prospective leader is active by sending an INQUIRY "IS MEMBER ACTIVE" to the prospective leader. (*Badovinatz:* Col. 5, ll. 62-65) Therefore, the INQUIRY request is sent to test whether the prospective leader is active, **not to run a query against the entries in the data store that stores a plurality of entries associated with the multicast group**, as claimed.

Even if the entries, as recited in Claim 16, have corresponded to *Badovinatz'* membership list, as the Examiner alleges, the Examiner's contention that *Badovinatz'* INQUIRY request corresponds to the request to run a query against the entries, as recited in Claim 16, is incorrect because *Badovinatz'* INQUIRY is not a query against a membership list. *Badovinatz'* INQUIRY is sent to a prospective leader, not to the data store comprising multicast group entries, as claimed. *Badovinatz'* INQUIRY is a request for an activity status from a prospective leader, not a request for the entries in the data store that match the criteria specified in the request, as claimed. *Badovinatz* INQUIRY request is not a request to determine the entries that satisfy the matching criteria included in the query, as claimed.

b. Badovinatz' INQUIRY request is sent by a member of the multicast group, not by a node that is not a member of the multicast group, as claimed.

None of the "inquiries" in *Bodavinatz* are the requests sent by a non-member to run a query against entries in a data store, as recited in Claim 1. In *Bodavinatz*, in order to select a new group leader, one or more processors of the group scan a membership list to determine a prospective new leader. (*Badovinatz:* Col. 5, ll. 50-55) However, *Badovinatz'* membership list is scanned by the members of the group, not by a node that is not a member of the multicast group, as claimed.

Furthermore, *Badovinatz'* INQUIRY request is sent by a member of the group (*Badovinatz:* Col. 5, 32-36), not by a non-member, as claimed. In *Badovinatz,* only a member of the group can send an INQUIRY request. In *Badovinatz,* non-members cannot test whether a member of the group is indeed active.

In one embodiment, the INQUIRY request is handled by sending a signal to a member and awaiting a response from the member. (*Badovinatz:* Col. 6, ll. 1-9) *Bodavinatz'* signal to tests whether the member is alive does not correspond to the request to run a query, as claimed, because *Bodavinatz'* signal does not cause running a query against the entries stored in the data store, as claimed. Hence, *Badovinatz* fails to anticipate "receiving a request to run a query against the entries stored in the data store [...]," as recited in Claim 16.

c. Badovinatz fails to describe "disseminating one or more entries that satisfy the matching criteria to the node that is not a member of the multicast group," as claimed.

The Examiner alleges that a plurality of entries in the data store, as recited in Claim 16, corresponds to *Badovinatz'* membership list stored in the memory (*Badovinatz*: Col. 6, ll. 19-22), and that disseminating one or more entries, from the data store, that satisfy the matching criteria to the node that is not a member of the multicast group, as recited in Claim 16, is disclosed in *Badovinatz'* column 6 (ll. 25-28) and column 8 (ll. 29-45), where *Badovinatz'* describes that a "member-to-join" receives the membership list. (Final Office Action: page 4, ll. 18-20) This is incorrect because the allegation is based on clear factual errors. The cited excerpts pertain to sending a membership list to a node that has already become a member of the group, **not to sending matching entries to a node that is not a member**, as claimed.

In *Badovinatz,* a node that is a non-member can merely inquire a name of the server that is a group leader (*Badovinatz:* Col. 7, ll. 21-24), send a request to join the group to the group leader (*Badovinatz:* Col. 7, ll. 35-37), and, only upon being added to the list of members, the node, now as a member, can receive a membership list (*Badovinatz:* Col. 8, ll. 29-45). Hence, if it is assumed that the entries in the data store, as recited in Claim 16, correspond to *Badovinatz'* membership list, then it is incorrect to state that the matching entries are disseminated to a node that is not a member, as claimed. In *Bodavinatz,* a membership list is disseminated only to the members, **not to a node that is not a member**. Hence, *Badovinatz* fails to anticipate "disseminating one or more entries that satisfy the matching criteria to the node that is not a member of the multicast group," as recited in Claim 16.

For at least these reasons, Claim 16 and the claims that depend from Claim 16, are patentable over Badovinatz under 35 U.S.C. § 102(e).

Claims 26 and 36 recite features similar to those in Claim 16. Therefore, Claims 26 and 36, and the claims that depend from Claims 26 and 36, are patentable over *Badovinatz* under 35 U.S.C. § 102(e) for the same reasons as Claim 16.

The rejection of Claims 16, 18-24, 26 and 28-39 under 35 U.S.C. § 102(e) should be reversed.

VIII. CONCLUSION AND PRAYER FOR RELIEF

Based on the foregoing, the Appellants respectfully submit that the rejections of Claims 16, 18-24, 26 and 28-39 lack the requisite factual and legal bases. Appellants respectfully request that the Honorable Board **reverse** the rejections of Claims 16, 18-24, 26 and 28-39.

Respectfully submitted,

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Dated: September 3, 2010

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CLAIMS APPENDIX

16. An apparatus for processing data at a node in a data network, wherein the data network connects a plurality of nodes and at least a portion of the plurality of the nodes form a multicast group, the apparatus comprising:

a data store that stores, in a database, a plurality of entries associated with the multicast group, wherein each entry comprises data to be transmitted from a rendezvous point of the multicast group to members of the multicast group; and

one or more processors comprising one or more sequences of instructions which when executed by one or more processors, cause the one or more processors to perform:

logic that disseminates the plurality of entries to members of the multicast group;

logic that receives, from a node that is not a member of the multicast group, a request to run a query against the entries stored in the data store, wherein the query specifies matching criteria;

logic that runs the query against the entries in the data store;

logic that indicates that the apparatus has been designated as the rendezvous node in the multicast group, wherein designation as the rendezvous node indicates that the apparatus is to disseminate the plurality of entries to members of the multicast group; and

logic that disseminates one or more entries that satisfy the matching criteria to the node that is not a member of the multicast group.

18. The apparatus of Claim 16, further comprising logic that adds a first entry to the plurality of entries in the data store in response to a request from a first node to add the first entry.

19. The apparatus of Claim 18, wherein the logic that adds a first entry to the plurality of entries further automatically disseminates the first entry to the plurality of the nodes that form the multicast group in response to the request from the first node to add the first entry to the plurality of entries.

20. The apparatus of Claim 16, further comprising logic that deletes a first entry of the

plurality of entries in the data store in response to a request from a first node to relinquish the first entry.

21. The apparatus of Claim 20, further comprising logic that indicates, to the plurality of the nodes that form the multicast group, that the first entry has been relinquished, wherein the indication is in response to the request from the first node to relinquish the first entry.

22. The apparatus of Claim 16, wherein a source that published the entry is not a member of the multicast group.

23. The apparatus of Claim 16, wherein a source that published the entry is a member of the multicast group.

24. The apparatus of Claim 16, wherein each entry is associated with a priority that specifies its delivery priority relative to other entries.

26. A method for operating an apparatus coupled to a selected node in a data network, wherein the data network connects a plurality of nodes and at least a portion of the plurality of the nodes, including the selected node, form a multicast group, the method comprising steps of:

storing, in a database, of a data store, at the apparatus, a plurality of entries associated with the multicast group, wherein each entry comprises data to be transmitted from a rendezvous point of the multicast group to members of the multicast group;

disseminating the plurality of entries to members of the multicast group;

receiving a request from a node that is not member of the multicast group to run a query against the entries stored in the data store, wherein the query specifies matching criteria;

indicating that the apparatus has been designated as the rendezvous node in the multicast group, wherein designation as the rendezvous node indicates that the apparatus is to disseminate the plurality of entries to members of the multicast group; and

disseminating one or more entries that satisfy the matching criteria to the node that is not member of the multicast group.

28. The method of Claim 26, further comprising adding a first entry to the plurality of entries stored at the apparatus in response to a request from a first node to add the first entry.

29. The method of Claim 28, further comprising automatically disseminating the first entry to the plurality of the nodes that form the multicast group in response to the request from the first node to add the first entry.

30. The method of Claim 26, further comprising deleting a first entry of the plurality of entries stored at the apparatus in response to a request from a first node to relinquish the first entry.

31. The method of Claim 30, further comprising indicating to the plurality of the nodes that form the multicast group that the first entry of the plurality of entries stored at the apparatus has been relinquished, wherein the indicating is performed in response to the request from the first node to relinquish the first entry.

32. The method of Claim 26, wherein a source that published the entry is not a member of the multicast group.

33. The method of Claim 26, wherein a source that published the entry is a member of the multicast group.

34. The method of Claim 26, wherein each entry is associated with a priority that specifies its delivery priority relative to other entries.

35. The method of Claim 26, further comprising:

receiving, from a particular node, a request to run a query against the entries stored at the apparatus, wherein the query specifies a source that published one or more entries; and

asynchronously notifying the particular node of a modification to a first entry;

wherein the asynchronously notifying the particular node is performed in response to the source that published the first entry modifying the first entry.

36. A data network for transmitting data, wherein the data network connects a plurality of nodes and at least a portion of the plurality of the nodes form a multicast group, the data network comprising:

a plurality of apparatuses, each of the apparatuses comprising:

a data store that stores, in a database, a plurality of entries associated with the multicast group, wherein each entry comprises data to be transmitted from a rendezvous point of the multicast group to members of the multicast group; and

one or more processors comprising one or more sequences of instructions which when executed by one or more processors, cause the one or more processors to perform:

logic that disseminates the plurality of entries to members of the multicast group;

logic that receives, from a node that is not a member of the multicast group, a request to run a query against the entries stored in the data store, wherein the query specifies matching criteria;

logic that runs the query against the entries in the data store;

logic that indicates that the apparatus has been designated as the rendezvous node in the multicast group, wherein designation as the rendezvous node indicates that the apparatus is to disseminate the plurality of entries to members of the multicast group; and

logic that disseminates one or more entries that satisfy the matching criteria to the node that is not a member of the multicast group.

37. The apparatus of Claim 16, wherein the plurality of entries to members of the multicast group comprises updates to data stores associated with nodes that are not members of the multicast group.

38. The method of Claim 26, wherein the plurality of entries to members of the multicast group comprises updates to data stores associated with nodes that are not members of the multicast group.

39. The data network of Claim 36, wherein the plurality of entries to members of the multicast group comprises updates to data stores associated with nodes that are not members of the multicast group.

EVIDENCE APPENDIX

1. Computer Dictionary Online (http://www.computer-dictionary-online.org/index.asp?q=logic) defines the term “logic” as follows:

> logic
>
> 1. <philosophy, mathematics> A branch of philosophy and mathematics that deals with the formal principles, **methods** and criteria of validity of inference, **reasoning** and knowledge.

2. Dictionary.com Online (http://dictionary.reference.com/browse/logic) defines the term “logic” as follows:

> logic
>
> 1. the science that investigates the principles governing correct or reliable inference.
> 2. a particular **method of reasoning** or argumentation.

3. Merriam-Webster Dictionary Online (http://www.merriam-webster.com/dictionary/logic) defines the term “logic” as follows:

> logic
>
> a (1): a science that deals with the principles and criteria of validity of inference and demonstration: the science of the formal principles of reasoning.
>
> b (1): a particular **mode of reasoning** viewed as valid or faulty.

RELATED PROCEEDINGS APPENDIX

None.